

Week ending December 12, 2008

Happy Holidays!



**The Jettison Motor Burst Test BT-1 is complete and demonstrated performance in excess of the requirement.** No permanent yielding was observed at 1746psig. Forward dome failure rupture occurred at 3250psig (Photo below right), well above the required 1932psig (1.4 x MEOP). The analytical prediction rupture was to occur at 2691psig.



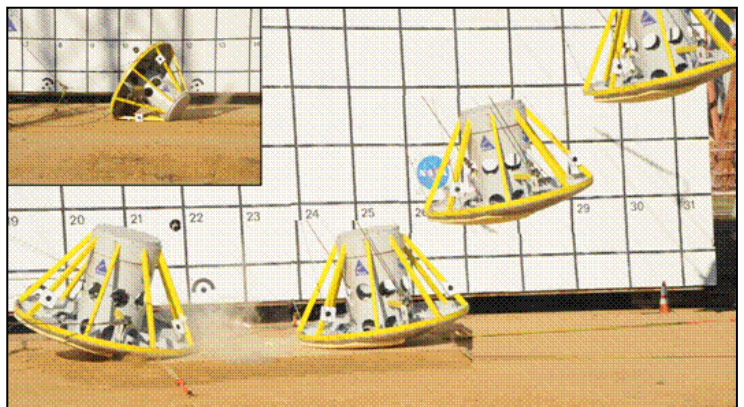
**Abort Motor Launch Abort System-1 insulated manifold for Pad Abort-1 shipped.** Igniter installation is complete, manifold development flight instrumentation is in work, and post manifold assembly began. Launch Abort System-1 rocket motor assembly completion date is December 22.



**The load cell calibrations for the Abort Motor ST-1 post test are complete and instrumentation was removed.** Igniter and nozzles were removed, and optical inspection of case/manifold joint ID and propellant sliver burnout is in work. A detailed inspection of each individual joint by seals and thermal analysts is underway. Case to manifold joint disassembly is complete.



**Four swing tests of the half scale Orion test article were conducted to finish evaluation of the predicted reduction in friction due to the shearing of charred AVCOAT.** The tests were performed to generate higher horizontal velocities and thereby shearing of the foam to demonstrate the reduction in longitudinal acceleration at the vehicle center of gravity. The surrogate foam (Elfoam P400) was glued and vacuum sealed to the front half of the bottom of the test article in 1.5 in thick strips. Tests were performed with 25 ft/s vertical and 40 ft/s horizontal velocity and the half scale Orion boiler plate test article pitched toe-in at 10 degrees. Results will be incorporated into the DAC-3 landing analyses.



**Members of the ATLAS team, engineering subsystem managers, CMO and Mission Operations Directorate completed the Androgynous Peripheral Docking System (APDS) Preliminary Design Review in Korolev.** The review included the APDS procurement specification; electrical system schematics; preliminary verification plan; updated FMEA and Hazard reports; 3D cad models; mechanical drawings; EEE parts and material lists; and preliminary technical requirements document. Teams discussed the use of Shuttle heritage avionics or replacement with new units and will propose development of new units. This option eliminates issues with component life, certification to Orion loads and providing load isolation, and will minimize risk to the Orion program schedule.



Post-test PICA on Edge test article